

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
24 December 2003 (24.12.2003)

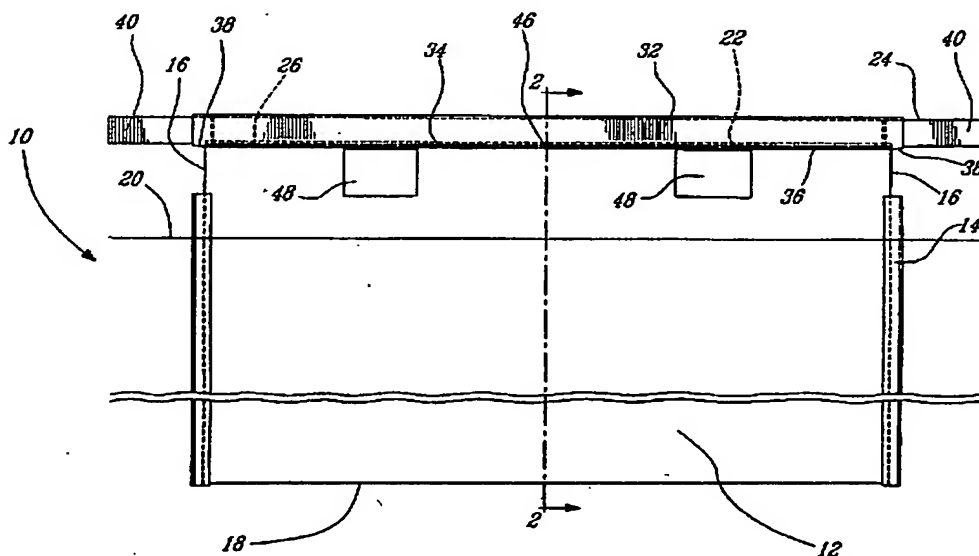
PCT

(10) International Publication Number  
**WO 03/106738 A1**

- (51) International Patent Classification<sup>7</sup>: **C25C 7/02**
- (21) International Application Number: **PCT/CA03/00919**
- (22) International Filing Date: **17 June 2003 (17.06.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:  
**60/389,452** **18 June 2002 (18.06.2002)** **US**
- (71) Applicant (*for all designated States except US*): **FALCONBRIDGE LIMITED [CA/CA]**; Met Tech Centre, P.O. Box 40, Sudbury, Ontario P0M 1S0 (CA).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **ROBINSON, Victor [CA/CA]**; 195 Laneige Avenue, Port Sydney, Ontario (CA). **DETULLEO, James, Joseph [CA/CA]**; 400 Finn Road, Barbers Bay, P.O. Box 254, Porcupine, Ontario P0N 1C0 (CA). **IVERSON, Gordon, S. [CA/CA]**; 1181 Middlegate Road, Oakville, Ontario L6M 1M5 (CA). **BEALES, Ian, J. [CA/CA]**; 47 Glamis Drive Southwest, Apt. 101, Calgary, Alberta T3E 6S2 (CA).
- (74) Agents: **DUBUC, J. et al.**; Goudreau Gage Dubuc, Stock Exchange Tower, 800 Place Victoria, Suite 3400, P.O. Box 242, Montréal, Quebec H4Z 1E9 (CA).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report

[Continued on next page]

(54) Title: **ENCAPSULATED CATHODE HANGER BAR AND METHOD OF MANUFACTURING**



(57) **Abstract:** A cathode for use in the refining or winning of metals, typically used in the electro-refining or winning of copper, comprising a substantially flat deposition plate fixedly attached along an upper edge thereof to an elongate hanger bar thereby defining a connection. A protective cladding is attached to the deposition plate and at least partially surrounding the hanger bar such that a cavity is defined in the region of the connection. A corrosion resistant material fills the cavity. In this manner the corrosion resistant material prevents corrosive substances from penetrating the connection. The corrosion resistant material prevents corrosive electrolytic solution and other liquids from corroding the conductive connection between the deposition plate and the hanger bar which would otherwise reduce efficiency of the cathode.